BRIEF IN SUPPORT OF PETITION FOR WRIT OF CERTIORARI.

The Walsh Invention.

Prior to the Walsh invention the only laminated glass products on the market, or disclosed in prior patents or publications*, comprised two sheets of glass of a *hard* interlayer. This interlayer was made up of cellulose nitrate with 34-45 parts of camphor (R. 147; 425, 426; 442-444). Camphor is a plasticizer; it is a hard, but volatile substance, boiling at about 209° C. (R. 464, 575, 1295). When cooled the camphor is hard, thus making a hard interlayer to match the hard glass. It was customary to use a binder between the glass and the cellulose nitrate camphor composition. Gelatin, when cold, is hard and brittle.°

The District Court found as a fact (Finding of Fact No. 4, R. 1874) as follows:—

> "4. Prior to Walsh it had generally been the practice to interpose between two glass sheets or plates a hardened sheet of preferably cellulose nitrate with volatile plastifier such as camphor. This hard layer was caused to adhere to the sheets or plates of glass by a gelatin binder. An objection to such laminated glass was due to the hardness of the sheet or layer. The binder was not always able to cause it to adhere uniformly throughout, where irregularities existed. Other objections were that changes of temperature and stresses would cause the hard layers to separate from the glass sheets so that upon impact and breakage, the glass would splinter and fly."

Walsh in the patent in suit No. 1,936,044 of November 21, 1933 (R. 29), proposed to make the interlayer soft. His specification says (p. 1, lines 15-31):

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* Except patent No. 1,831,462 to Moss, filed Oct. 20, 1928, as to which Walsh proved prior invention, found by the District Court (R. 1871, Finding of Fact, 18, R. 1879), but not disturbed by the Circuit Court of Appeals.

° Matieres Plastiques Artificielles, 1924, Defendant's Exhibit R, R. 1339.

> "Prior to my invention, laminated glass has been made by interposing thin sheets of a hard composition containing cellulose nitrate or pyroxylin between sheets of glass, and causing the same to unite by heat and pressure. These thin sheets of cellulosic material were quite rigid and tended to lose their volatile solvents, with the result that even when volatile solvents were applied to assist the union of the cellulosic sheets with the glass, great difficulty was experienced in causing firm adherence, even when great heat and pressure were applied. Moreover with the use of thin hard sheets of a composition containing derivative of cellulose, the laminated glass is of irregular thickness and has irregular stresses due to the tendency of the cellulosic sheet not to flow sufficiently."

The manner in which Walsh proposed to overcome these difficulties was to provide an interlayer of soft consistency resembling that of a rubberlike mass.* The specification states this as follows (page 1, lines 32-38):

> "I have found that the above described difficulties of poor welding and irregularities of the product may be obviated by employing as a laminating agent, a plastic composition containing derivatives of cellulose, which composition has a soft consistency resembling that of a rubber-like mass."

To accomplish this object, both in the manufacturing process and in the ultimate product, Walsh proposes (page 1, lines 39-44) to employ with the "derivative of cellulose" "sufficient non-volatile solvents or plasticizers to impart to the finished product such plasticity that it will readily flow under heat and pressure and a volatile solvent."

In order to specify how to attain the soft rubber-like mass the patent mentions a number of representative cellulose derivatives and a number of representative non-

* The term "rubber-like mass" had a well defined meaning in the art; see "resembling raw rubber" (Defendant's Ex. R, Vol. III, p. 1309), "rubbery" (Defendant's Ex. R, Vol. III, p. 1340), "properties of rubber" (Defendant's Ex. R, Vol. III, p. 1279), "like India rubber" (Defendant's Ex. R, Vol. III, pp. 1167, 1173).

volatile plastifiers (page 1, lines 48-61), and gives two examples of the proportion of plastifier to be used, one of which, using cellulose nitrate, is 50 to 75 parts per 100 parts cellulose nitrate (page 1, lines 85-87), and the other of which is 60 parts of plastifier with cellulose acetate (page 2, lines 18, 19). The claims in suit specify that the non-volatile plastifier shall be from the group "dibutyl phthalate, diethyl phthalate, dibutyl tartrate and triacetin" (claims 1 and 5), or "from the group consisting of phthalic acid esters" (claims 3 and 6), or a "non-volatile alkyl phthalate" (claims 4 and 7).

Walsh made no assertion or claim that the knowledge of the art was such that once instructed to make the cellulose derivative hard or soft it would be able to do so. The cellulose derivative art had been highly developed. It comprised derivatives of cellulose with various acids, ethers, etc., and the art was also familiar with plasticizers and that a small proportion of plasticizer tended to make a hard sheet and a larger quantity to make a soft sheet.

The specification states a number of cellulose derivatives and a number of plasticizers, all of which were well known, and the several plasticizers applicable to the several derivatives were also well known.

As stated in Finding of Fact No. 5 of the District Court, (R. 1874) Walsh's invention was to provide a soft yieldable interlayer in place of the old hard interlayer in the laminated prior art. The finding of fact referred to reads as follows:—

> "5. Walsh proposed to overcome these objections and defects in the prior art by providing an inner layer of soft, yieldable, plastic material, which would more nearly conform to the irregularities of the adjacent sheets or plates of glass, and would thus provide greater and more permanent and complete adhesion than in the case of a hard inner layer. This would prevent the glass from flying when struck by impact, and would absorb part of the impact and distribute it."

Walsh's Proposal was Novel and Contrary to the Prior Art.

In making this proposal, Walsh was going directly contrary to the prior art, which consistently held to the belief that the interlayer should be as hard as the glass; also that the proposal to increase the proportion of plasticizer meant weakening the interlayer.

It will be noted also that Walsh proposed to use only *non-volatile* plasticizers. In the old laminated glass camphor is volatile and hence after going through the manufacturing process of pressing the glass plates and the interlayer together under heat the result was necessarily a hard plasticizer. In Walsh the plasticizer, being non-volatile, is still present in sufficient quantity to keep the interlayer soft.

The Special Master and the Circuit Court of Appeals gave little heed to the fact that Walsh's patent was directed to and entitled an invention in laminated glass, and that the one step that he introduced in the laminated glass art was to use a soft rubber-like interlayer, and he gave examples thereof and specified proportions of the non-volatile solvent which would insure that softness.

The Walsh Claims in Suit.

The Walsh claims in suit read as follows:—

> 1. Laminated glass having sheets of glass united by a plastic composition containing a derivative of cellulose and 50-75%, based on the cellulose derivative, of non-volatile plastifier selected from the group consisting of dibutyl phthalate, diethyl phthalate, dibutyl tartrate and triacetin to render the same flowable under heat and pressure.
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> 3. Laminated glass having sheets of glass united by a plastic composition containing a derivative of cellulose and 50 to 75%, based on the cellulose derivative, of a non-volatile plastifier selected from the group consisting of phthalic acid esters.

4. Laminated glass having sheets of glass united by a plastic composition containing cellulose acetate and 50 to 75%, based on the cellulose acetate, of a non-volatile alkyl phthalate.

5. The method of making a laminated glass, comprising interposing layers of a plastic composition containing a derivative of cellulose and 50-75%, based on the cellulose derivative, of non-volatile plastifiers selected from the group consisting of dibutyl phthalate, diethyl phthalate, dibutyl tartrate and triacetin to render the same flowable under heat and pressure between sheets of glass to be laminated, and then causing the plastic mass to coalesce under heat and pressure.

6. The method of making laminated glass, comprising interposing layers of a plastic composition containing a derivative of cellulose and 50 to 75%, based on the cellulose derivative, of non-volatile plastifiers selected from the group consisting of phthalic acid esters.

7. The method of making laminated glass, comprising interposing layers of a plastic composition containing cellulose acetate and 50 to 75%, based on the cellulose acetate, of a non-volatile alkyl phthalate.

In these claims the plastifiers specified, particularly the phthalates, were well known plastifiers, and by using large proportions thereof, "50-75%", Walsh insured the presence of a soft interlayer after the plates and interlayer had been heated and pressed in the manufacturing process.

Error of the Circuit Court of Appeals for the Sixth Circuit.

We submit that it was a fundamental error on the part of the Circuit Court of Appeals to enter into a critical comparison of different cellulose derivatives and plastifiers, all of which were well-known to the art, and to decide the case as though the patent were for the chemical compound or processes which Walsh did not claim, and ignore the one simple step which Walsh did claim.

Although Walsh's step was simple it was one of importance and its teaching was adopted by the defendant within the definite field of the patent. It is submitted that it is of the same order as the invention sustained by this Court in *Smith* v. *Snow*, 294 U. S. 1.

While the Circuit Court of Appeals held that there "was substantial and persuasive evidence to sustain findings of the Master that the three product claims in suit were invalid for want of novelty and want of disclosure" (R. 1918) and accepted the findings under Rule 53(e) (2) of the Federal Rules of Civil Procedure, yet this was done when construing the patent for a chemical compound or process instead of for laminated glass. Regardless of the findings made by the Master this Court has the power to correct this fundamental error for the contrary clearly appears upon the face of the patent itself as set forth previously herein.

While it is true that questions of validity and infringement of a patent are questions of fact for a jury, yet the nature and scope thereof are for the court.

In *Coupe* v. *Royer*, 155 U. S. 565 this Court said, in remanding the case in plaintiff's favor with instructions for a new trial, at page 580:

> "Our conclusion upon this part of the case, therefore, is, that the question of infringement, arising upon a comparison of the Royer patent and the machine used by the defendants, should be submitted to the jury, *with proper instructions as to the nature and scope of the plaintiff's patent* as hereinbefore defined, and as to the character of the defendants' machine". (emphasis supplied)

The Second Circuit Court of Appeals in *Brothers* v. *Lidgerwood Mfg. Co.*, 223 Fed. 359 in affirming a judgment based on a directed verdict for the defendant and in construing the patent valid but not infringed in view of the prior art, stated the rule succinctly at page 360:

> "It is well settled that when the validity of a patent is to be determined and its claim construed

by reference to prior patents, about the dates and authenticity of which there is no controversy, *the trial judge will usually construe those documents as he would other documents; his doing so does not invade the province of the jury.* There may be exceptional cases, but this is not one of them. The first questions, therefore, for this court to determine, are whether, in view of the prior art patents, the one in suit is valid, and what is the scope of its claims." (emphasis supplied)

Other cases supporting the same proposition are: *Heald* v. *Rice,* 104 U. S. 737; *Singer Manufacturing Company* v. *Cramer,* 192 U. S. 265; *Fond du Lac* v. *May,* 137 U. S. 395.

The Scope of the Walsh Claims.

Walsh's claims are all limited to proportions of 50 to 75 parts of plastifier. This range, roughly speaking, begins where the prior art left off, in proportions of plastifier. The file wrapper shows that the lower limit, 50, was put in to avoid the prior art, but the upper limit was not required by the prior art but put in voluntarily by the applicant in order to indicate a suitable range.

Plaintiff does not seek to avoid either the lower or the upper limit but does invoke the doctrine of *Winans* v. *Denmead,* 15 Howard 330, and subsequent cases, decided by this Court. In *Winans* v. *Denmead* this Court set forth the rule as follows (p. 343):

> "*It may safely be assumed that neither the patentee nor any other constructor has made or will make, a car exactly circular. In practice, deviations from a true circle will always occur. How near to a circle then, must a car be, in order to in-infringe? May it be slightly elliptical, or otherwise depart from a true circle, and if so how far?*
>
> In our judgment, the only answer that can be given to these questions is that it *must be so near to a true circle as substantially to embody the patentee's mode of operation, and thereby attain*

> *the same kind of result as was reached by his invention.*" (Italics by counsel.)

The Circuit Court of Appeals for the Sixth Circuit cited *Ives* v. *Hamilton*, 92 U. S. 426, in *United States Rubber Co.* v. *General Tire & Rubber Co.*, 128 Fed. (2d) 104, (C. C. A. 6th Circ.) and said (page 109):

> "Infringement is not avoided by change in degree, so long as the distinguishing function is retained, or by adding elements to the complete structure of the patent claim."

See also *Continental Paper Bag Co.* v. *Eastern Paper Bag Co.*, 210 U. S. 405, where this Court said (page 415):

> "It is manifest, therefore, that it was not meant to decide that only pioneer patents are entitled to invoke the doctrine of equivalents, but that it was decided that the range of equivalents depends upon and varies with the degree of invention. See *Ives et al.* v. *Hamilton, Executor*, 92 U. S. 426; *Hoyt* v. *Horne*, 145 U. S. 302; *Deering* v. *Winona Harvester Works*, 155 U. S. 286; Walker on Patents, §362; Robinson on Patents, §258."

And in *Hoyt* v. *Horne*, 145 U. S. 302, this Court said (page 308):

> "It is insisted by the defendant in this connection that there is no infringement of the first claim of the Hoyt patent, since the pulp *is not circulated 'in vertical planes,' nor is it delivered by the beater-roll 'into the upper section of the vat,' as specified in that claim. Literally it is not.* A technical reading of the specification undoubtedly required that the mid-feather should run horizontally instead of vertically; but the object of this was that the pulp should be received and delivered by the beater-roll along its entire length, viz.: across the entire width of the tub, and this is accomplished in the same way in both devices. In both engines the beater-roll revolves toward the top of the dam or back-fall, and a similar acceleration of speed is obtained. How

> the pulp shall circulate at the other end of the tub is a matter of small consequence so long as it shall circulate in vertical planes at the point where it comes in contact with the roll." (Italics by counsel.)

As late as 1934 in *Smith* v. *Snow*, 294 U. S. 1, this Court said (p. 23):—

> "Petitioner does not avoid infringement of respondent's method patent merely by employing it in a machine of different structure than respondent's, whether more or less efficiently. *Winans* v. *Denmead*, 15 How. 330, 344; *Sewall* v. *Jones*, 91 U. S. 171, 184; *Cochrane* v. *Deener*, supra, 789; *Carnegie Steel Co.* v. *Cambria Iron Co.*, 185 U. S. 403, 441."

Defendant used a non-volatile plastifier of the same class as the diethyl and dibutyl phthalates mentioned in the Walsh patent. In the upper limits of its compound defendant used from 68.4 parts to 84.45 parts of plasticizer in different types of product (R. 10-12). The plasticizer itself consisted in some cases of dimethyl phthalate and others dimethyl phthalate mixed with diethyl phthalate (one of those specifically mentioned in the patent). No question was raised but what the defendant's plasticizer was a non-volatile plasticizer and that the proportions given resulted in a soft yielding interlayer between the plates. No attempt was made by defendant to show that the slight excess of plasticizer gave any materially different result from that specified in the Walsh patent.

It is respectfully submitted that if patent claims are to be construed so literally as to free a defendant to make such mere colorable departures from the terminology of the claim as were made in this case, few patents would be of any value.

For a clear statement of the invention of the Walsh patent and the question of infringement, reference is respectfully had to the opinion of the Honorable Judge Darr in the District Court, beginning at R. 1866.

Conclusion.

Wherefore plaintiff respectfully prays that a petition for a writ of certiorari be granted, the case reviewed, and the judgment of the Circuit Court of Appeals for the Sixth Circuit be reversed.

Respectfully submitted,

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